UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/895,903	06/28/2001	David Wallman	SUN-P6237-MEG	9483

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EXAMINER
ROCHE, TRENTON J

ART UNIT	PAPER NUMBER
2124	

DATE MAILED: 09/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/895,903	WALLMAN ET AL.
	Examiner	Art Unit
	Trent J Roche	2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>19 July 2004</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
     closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-21</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-21</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>28 June 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
     Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1. This office action is responsive to Amendment A filed 19 July 2004.

2. Per applicant's request, amended claims 1, 8 and 15 have been entered. Claims 1-21 are pending.

3. Claims 1-21 have been examined.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-21 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication 2002/0129337 A1 to Evans et al, hereafter referred to as Evans.

Per claim 1:

Evans teaches:

- a method to facilitate debugging a platform-independent virtual machine ("debugging an application comprising Java code...the method operating in a computer having an operating system...and a Java Virtual Machine..." in claim 1. The Java Virtual Machine is platform-independent.)

- providing an agent on the platform-independent virtual machine, wherein the agent provides a set of functions for accessing a plurality of variables in the platform-independent virtual machine (Note Figure 1, item 41 and the corresponding sections of the disclosure. The ICAT2 probe allows a user to access variables.)

- adapting the platform-independent virtual machine to call the set of functions within the agent ("The JVM notifies the debugger of asynchronous occurrences by using events. The probe MUST provide event handlers..." in paragraph 0065. Note Figure 3 and the corresponding sections of the disclosure.)

- examining a current state of the plurality of variables in the platform-independent virtual machine using the agent ("Using ICAT, application developers can...examine the application's stack and variables..." in paragraph 0015)

- communicating the current state of the plurality of variables to a host machine, wherein an operator of the host machine can analyze the current state of the plurality of variables to determine if the platform-independent virtual machine is operating correctly and, if not, to determine a possible cause of incorrect operation (Note Figure 2 and the corresponding sections of the disclosure. Further, "ICAT2 to provide a console window...this permits users to see output printed by the application..." in paragraph 0094. Further, note Figure 14. The ICAT2 debugger probe controls the JVM through debugging controls. "ICAT2 invokes the launch method on the 'LC' object...The launch method returns a VirtualMachine (VM) object to the probe...The VM object mirrors the state of the JVM and provides the objects and methods needed..." in paragraphs 0057 and 0058. Since the JVM is operating under debugging commands by the probe, then the system has the ability to determine if the virtual

machine is operating correctly or not, as the probe has access to debugging information regarding the JVM as well as the application.)

substantially as claimed.

Per claim 2:

The rejection of claim 1 is incorporated, and further, Evans discloses the agent including a core portion that is common across multiple platforms and a platform-specific portion for each platform as claimed (Note Figure 1, items 16 and 41 and the corresponding sections of the disclosure. The core is the JVM, which is common across platforms, while the ICAT2 probe is a platform-specific process.)

Per claim 3:

The rejection of claim 2 is incorporated, and further, Evans discloses the platform-specific portion including features and structures related to a specific platform-independent virtual machine as claimed ("the ICAT2 probe must establish a connection to the JVM. With the sun.tools.debug API…" in paragraph 0053. The platform-specific portion inherently includes features and structures related to the JVM as it must establish a connection with the JVM.)

Per claim 4:

The rejection of claim 1 is incorporated, and further, Evans discloses inserting checkpoints within executable code as claimed ("to allow the user to…set breakpoints…" in paragraph 0048)

Per claim 5:

The rejection of claim 4 is incorporated, and further, Evans discloses using functions to examine the current state of the plurality of variables and communication the current state of the plurality of variables to the host machine as claimed ("ICAT2 obtains a list of the current application threads by calling the VM's 'allThreads' method..." in paragraph 0103)

Per claim 6:

The rejection of claim 1 is incorporated, and further, Evans discloses one of a direct coupling and a network coupling as claimed ("over a computer network such as a Local Area Network..." in paragraph 0051)

Per claim 7:

The rejection of claim 1 is incorporated, and further, Evans discloses including resources for collecting data as claimed (Note Figure 13 and the corresponding sections of the disclosure.)

Per claims 8-21:

Claims 8-14 and 15-21 are directed to a computer-readable storage medium storing instructions executed by a computer, and an apparatus, respectively, for performing the methods of claims 1-7, respectively, and are rejected for the reasons set forth in connection with claims 1-7, respectively.

Response to Arguments

1.   Applicant's arguments filed 19 July 2004 have been fully considered but they are not persuasive.

Per claims 1, 8 and 15:

The applicant states that Evans does not teach the newly added limitation of determining if a

platform-independent virtual machine is operating correctly and, if not, determining a possible cause

of incorrect operation. In response, it is noted in the rejection of claim 1 that the system disclosed

by Evans includes a debugging probe, which controls a JVM through a debugging API. While the

JVM is further used to run an external application to the JVM, the JVM disclosed by Evans is still

running under debugging controls by the ICAT2 probe. Consequently, during the debugging of an

application program, the determination that the virtual machine is operating correctly would occur,

as the probe has debugger level access to the internals of the virtual machine and, if an error is

found in the application, the user may check both the application and the virtual machine using the

debugging information in the probe. For these reasons, the rejections of independent claims 1, 8 and

15 are proper and maintained.

Per claims 2-7, 9-14 and 16-21:

The applicant states that claims 2-7, 9-14 and 16-21 are allowable as being dependent on an

allowable base claim. As was shown above, the rejections of independent claims 1, 8 and 15 are

proper, and as such, the rejections of claims 2-7, 9-14 and 16-21 are proper and maintained.

Conclusion

2.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS

from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the

mailing date of this final action and the advisory action is not mailed until after the end of the

THREE-MONTH shortened statutory period, then the shortened statutory period will expire on

the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will the statutory

period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Trent J Roche whose telephone number is (703)305-4627. The examiner can

normally be reached on Monday - Friday, 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Kakali Chaki can be reached on (703)305-9662. The fax phone number for the organization where

this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR system,

see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system,

contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Trent J Roche
Examiner
Art Unit 2124

TJR

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